

zenith



SERVICE MANUAL

Product Type: LCD TV
Chassis: ML-024A
Manual Part #: 3828VD0131Y
Product Year: 2003

Model Series:

L15V26D

CONTENTS

Specifications	4
Description of Controls	5
Adjustment Instructions	8
Diagrams	10
Parts List	13
Schematics.....	

Published June 2003
by Technical Publications
Zenith Electronics Corporation
201 James Record Road
Huntsville, Alabama 35824-1513

Copyright © 2003 by Zenith Electronics Corporation

PRODUCT SAFETY

IMPORTANT SAFETY NOTICE

This manual was prepared for use only by properly trained audiovisual service technicians. When servicing this product, under no circumstances should the original design be modified or altered without permission from Zenith Electronics Corporation. All components should be replaced only with types identical to those in the original circuit and their physical location, wiring, and lead dress must conform to original layout upon completion of repairs. If any fuse (or Fusible Resistor) in this TV receiver is blown, replace it only with the factory specified fuse type and rating. When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB. Always keep wires away from high voltage or high temperature parts.

Special components are also used to prevent shock and fire hazard. These components are indicated by the letter "x" included in their component designators and are required to maintain safe performance. No deviations are allowed without prior approval by Zenith Electronics Corporation. Service work should be performed only after you are thoroughly familiar with these safety checks and servicing guidelines.

Circuit diagrams may occasionally differ from the actual circuit used. This way, implementation of the latest safety and performance improvement changes into the set is not delayed until the new service literature is printed.

CAUTION: Do not attempt to modify this product in any way.

Never perform customized installations without manufacturer's approval.

Unauthorized modifications will not only void the warranty, but may lead to property damage or user injury.

GENERAL GUIDANCE

An Isolation Transformer should always be used during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating to protect against personal injury from electrical shocks. It will also protect the receiver and its components from being damaged by accidental shorts of the circuitry that may be inadvertently introduced during the service operation.

Before returning the receiver to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminals, etc., to be sure the set is safe to operate without damage of electrical shock.

LEAKAGE CURRENT COLD CHECK (ANTENNA COLD CHECK)

With the instrument AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc. If the exposed metallic part has a return path to the chassis, the measured resistance should be between $1M\Omega$ and $5.2M\Omega$. When the exposed metal has no return path to the chassis the reading must be infinite. Any other abnormality that exists must be corrected before the receiver is returned to the customer.

ELECTROSTATICALLY SENSITIVE DEVICES

Some semiconductor (solid-state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on the body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as an ESD mat, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charge sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil, or comparable conductive material.)
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

Caution: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise, seemingly harmless motion, such as the brushing together of your clothing or the lifting of your foot from a carpeted floor, can generate static electricity sufficient to damage an ES device.)

REGULATORY INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient or relocate the receiving antenna; Increase the separation between the equipment and receiver; Connect the equipment into an outlet on a circuit different from that to which the receiver is connected; Consult the dealer or an experienced radio/TV technician for help.

The responsible party for this device's compliance is:

Zenith Electronics Corporation
201 James Record Road
Huntsville, AL 35824, USA
Digital TV Hotline: 1-800-243-0000

TABLE OF CONTENTS

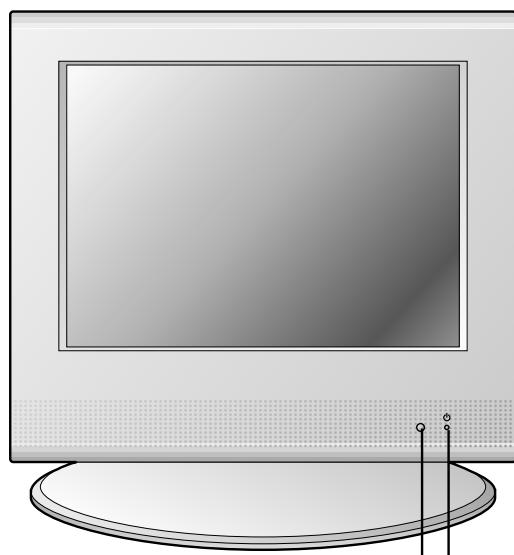
SPECIFICATIONS.....	4
DESCRIPTION OF CONTROLS	5
ADJUSTMENT INSTRUCTIONS	8
BLOCK DIAGRAM.....	10
EXPLODED VIEW.....	12
EXPLODED VIEW PARTS LIST	13
REPLACEMENT PARTS LIST	14
SCHEMATIC DIAGRAM.....	
PRINTED CIRCUIT BOARD	

SPECIFICATIONS

Model	L15V26D
Horizontal size (inches)	15.2
Height (inches)	14.5
Depth (inches)	7
Weight (pounds)	16
Power requirements	AC 120V, 60Hz
Television system	NTSC
Television channels	VHF : 2 ~ 13, UHF : 14 ~ 69 Cable : 1 ~ 125
Tube	LCD Panel
Power consumption	45 W
External antenna impedance	75 Ω
Audio output	1 W + 1 W
Speaker outputs	8 Ω X 2
External input ports	Power cord socket 1 Component (480i/480p/720p/1080i) input 1 set S-VIDEO input 1 Headphone jack 1 Video/Audio input set 1 PC input jack 1 PC sound jack 1 Antenna input 1
Power supply cord set	Standard North America three wire earth-grounding with flexible cord SJT type or higher type.

DESCRIPTION OF CONTROLS

Front of the TV

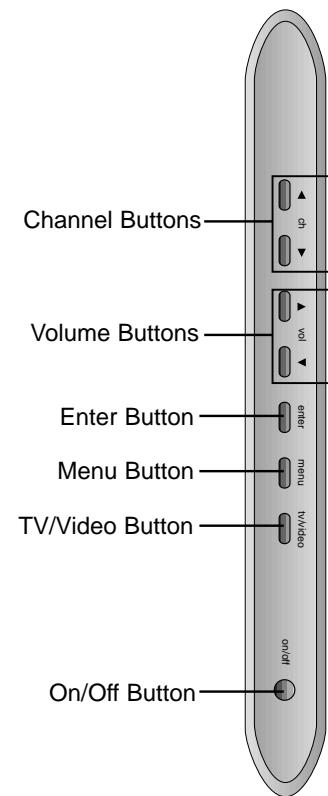


Remote Control Sensor

Power/Standyby indicator

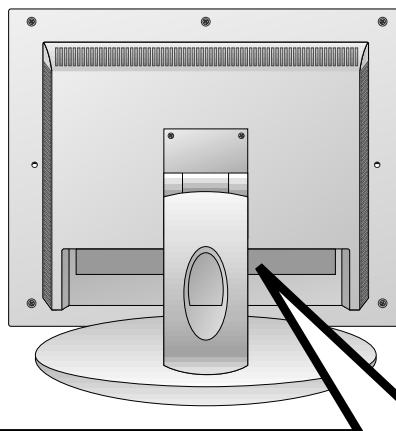
Illuminates red in standby mode, Illuminates green when the TV is turned on.

Side Control Panel

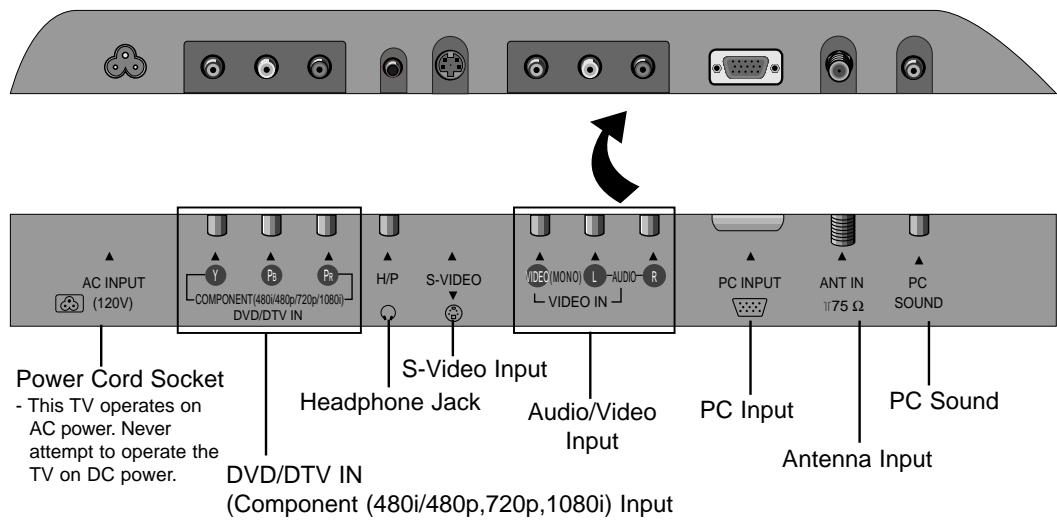


DESCRIPTION OF CONTROLS

Back of the TV

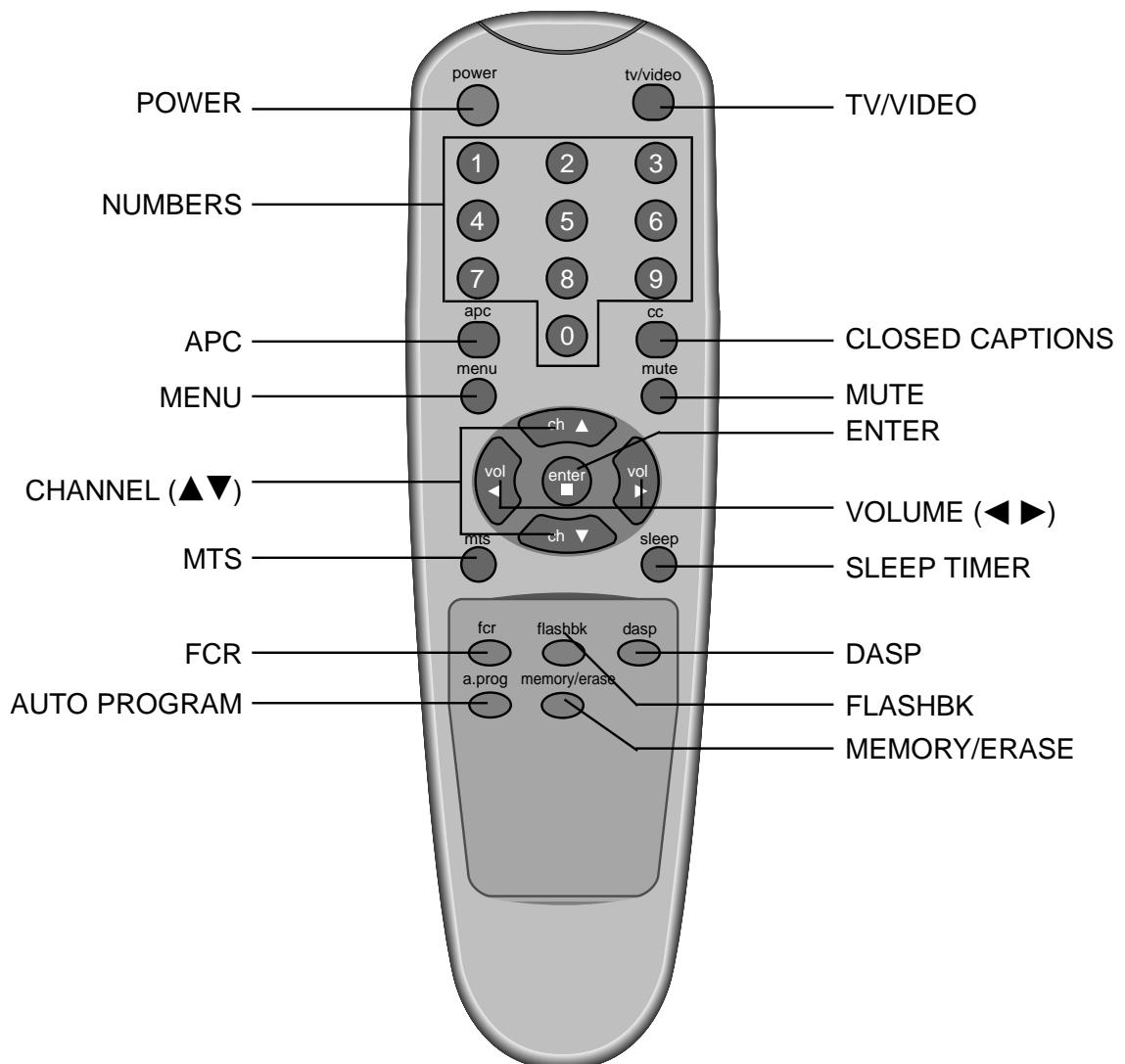


Connection Panel



DESCRIPTION OF CONTROLS

Remote Control Buttons



Press the FLASHBK button to view the last program you were watching.

ADJUSTMENT INSTRUCTIONS

1. Application Object

This instruction is for the application to the LCD TV/Monitor, ML-024A.

2. Notes

- (1) This LCD TV has an internal power supply. Connect the power correctly, then start the adjustment.
- (2) The adjustment must be performed under the correct sequence.
- (3) The adjustment must be performed in the circumstance of $25\pm5^{\circ}\text{C}$ of temperature and $65\pm10\%$ of relative humidity if there is no specific designation.
- (4) The input voltage of the receiver must keep 100~220V, 50/60Hz while adjusting.
- (5) Unless otherwise noted, allow the set to heat-run for at least 15 minutes prior to any adjustments.

● 'Heat Run' must be performed with a full white signal or TV noise signal in the internal part of the set.

● Condition of Line Test : Standard color signal - $65\pm1\text{dBuV}$

3. PC Mode Adjustment

3-1. Required Test Equipment

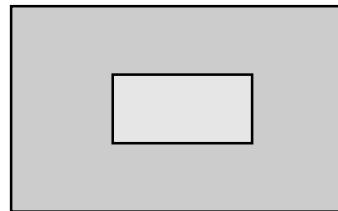
- (1) VESA Spec. Window Pattern or pattern which has White-Black signal simultaneously.
- (2) Adjustment Remote Control

4. Option

No.	Item	Specification	Remark
1	COMPO	0	Component input mode 0 : not ready 1 : ready
2	3SYS	0	Video input applicable system 0 : NTSC-M(North America) 1 : NTSC-M & PAL-M/N multi(South America)
3	LGCON	0	RS232C Protocol 0 : MPI Protocol(Zenith program) 1 : LG Protocol(LG program)
4	MPIOS	0	RS232C Protocol OSD display 0 : non display OSD 1 : display OSD
5	BLUEB	1	No - signal Video mode 0 : Black-Back 1 : Blue-Back
6	RLOCK	0	RS232C Protocol 0 : Remocon Lock 1: Remocon Unlock

3-2. Preparation for Adjustment

- (1) Perform 'Heat Run' for more than 15 minutes in white pattern.
- (2) Connect the pattern generator signal to the Input Jack(D-Sub) of the LCD TV.
- (3) Confirm the XGA(1024x768) Window Pattern or signal(White-Black) using the 801-GF/GD, VG819.
- (4) Use the IN-START Key on the Adjustment R/C to enter the PC adjustment mode.
- (5) Example of adjustment screen.



<Fig. 1>

- (6) Enter into the adjustment mode as <Fig. 1> and select the cursor(red letters) to "RGBSE ▶" with the channel key on R/C for adjustment.
- (7) Press the Volume ▶ on the Adjustment R/C.
- (8) The adjustment starts automatically, changing values in order of RO --> GO --> BO --> RD --> GD --> BD.
Finally, when the value of BD is changed the adjustment is completed.
- (9) Press the MENU or EXIT key to exit the adjustment mode.

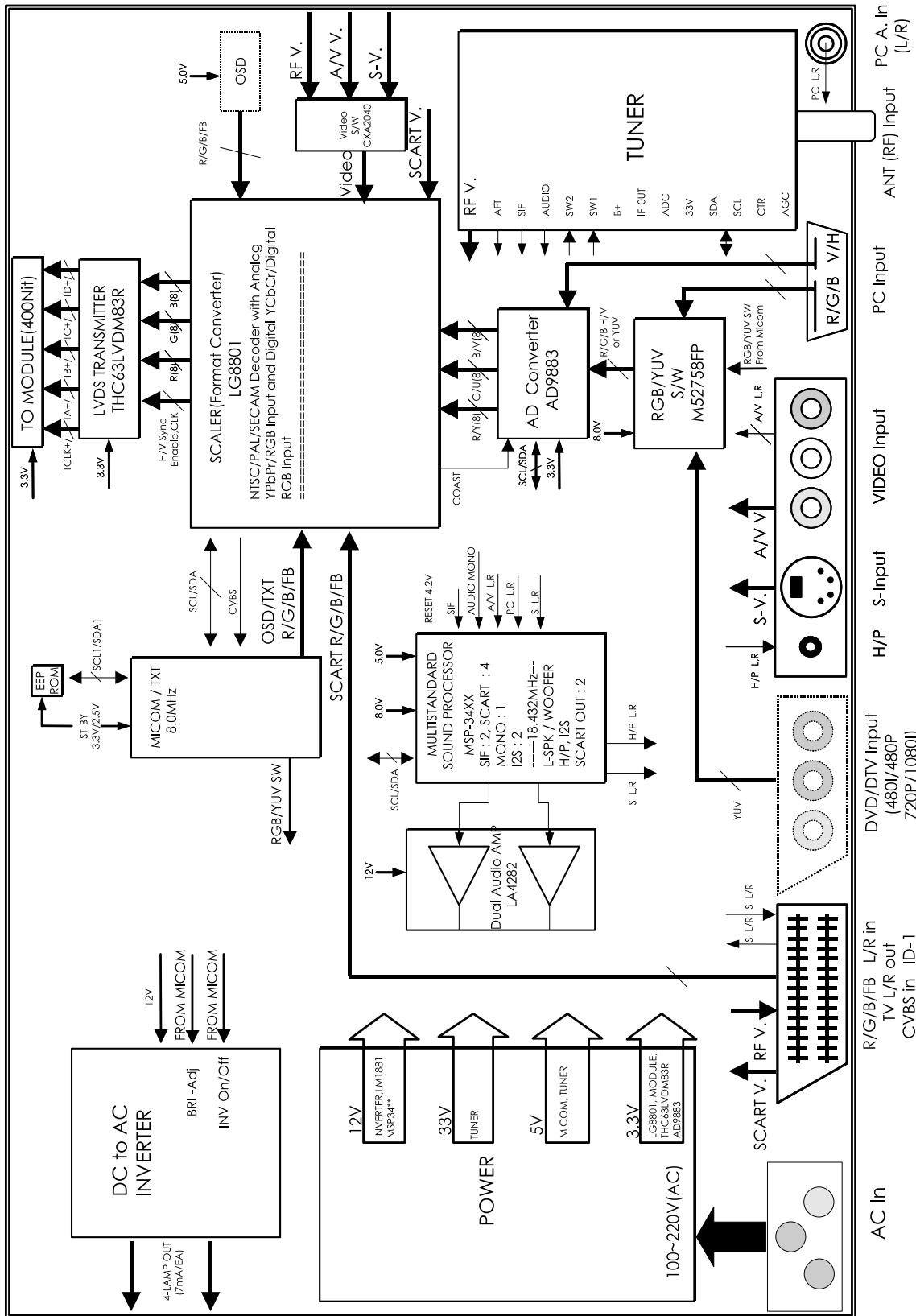
ADJUSTMENT INSTRUCTIONS

5. RS232C(RMS Only)

- (1) Use the Untwisted 232C Cable
- (2) Use the PC program which is sent by Zenith
- (3) 232C Protocol

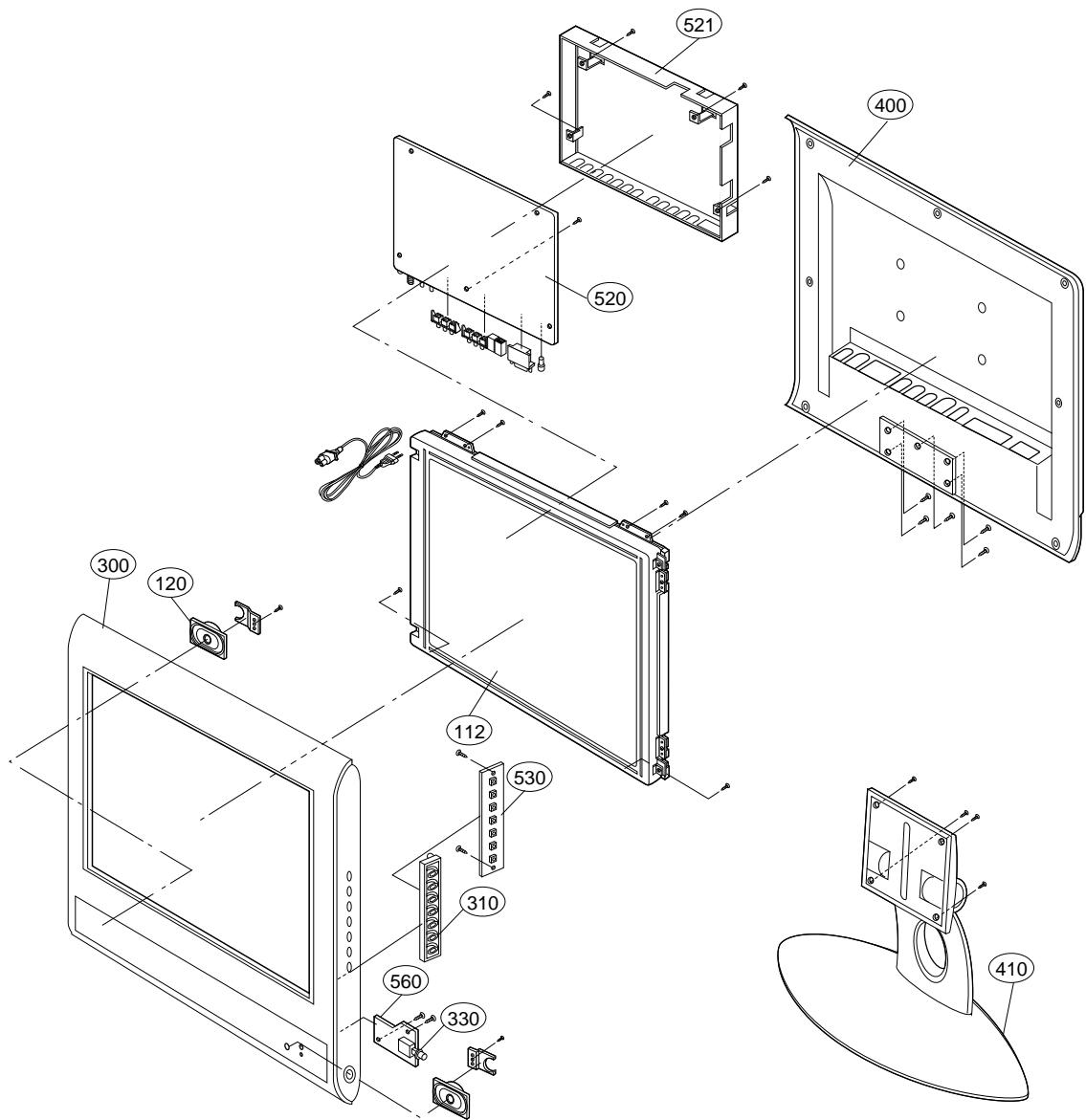
No.		Command	Remark
1	Power On	E110F1	Turn the set on.
2	Power Off	E111F2	Turn the set off.
3	Volume Up	E10AEB	Volume up 1 level
4	Volume Down	E10BEC	Volume down 1 level
5	Volume Direct Access	EAXXYY	Select desired volume data directly. XX : desired volume value(HEX) YY : check Sum of EA and XX
6	Set Volume Limit	EBXXYY	Set the range of adjustable volume value XX : adjustment data of volume value YY : check Sum of E1 and XX
7	Direct Channel Select	E4XXYY	Select channel with number keys. E4 : Direct Channel command XX : channel data want to change YY : check Sum of E4 and XX
8	Poll/Front Panel Lockout	A0A0	Front/Remocon Key Lock command A0 : Key Lock command(Both Local and Remocon keys) A0 ; Check Sum
9	Poll/Front Panel Unlockout	B0B0	Front/Remocon Key Lock command B0 : Key Unlock command(Both Local and Remocon keys) B0 : Check Sum
10	Status Read Back	ABWWXXYY	Read present status of set Data Byte1(XX) Bit Description 0~5 Volume data(hex. 0~3F) 6 signal status(1=Good, 0=Bad) 7 Power status(1=On, 0=Off) Data Byte2(YY) Bit Description 0~7 Channel Number (Same with direct Channel)

BLOCK DIAGRAM



NOTES

EXPLODED VIEW



EXPLODED VIEW PARTS LIST

No.	PART NO.	DESCRIPTION
112	6306V15002A	LCD MODULE,M150X3-L04 XGA CHIMEI TFT COLOR
120	6400VA0017A	SPEAKER,GENERAL T401SX-095K14 LG C&D 8 OHM 1.0/1.5W 81DB
300	3091V00443P	CABINET ASSEMBLY,RM-15LA54 STEREO ML024A SKD CMO
310	5020V00552J	BUTTON,CONTROL RU-15LA51 ABS, HF-380 7KEY
330	5020V00553G	BUTTON,POWER RU-15LA51 ABS, HF-380 7KEY
400	3809V00300K	BACK COVER ASSEMBLY,RU-15LA50 NON SKD CANADA
410	4811V00029Q	BRACKET ASSEMBLY,STAND RM-15LA54 ML024A SKD
430	4814V00269A	SHIELD,15LA32 NON METAL NON
520	6871VMMR21A	PCB ASSEMBLY,MAIN ML-024A RM-15LA54 PCB ASSY MAIN
521	4950V00095B	METAL,MAIN BRACKET SECC ML024A
530	6871VSMA12A	PCB ASSEMBLY,SUB CONT MF-004A CTL ASSY RT-15LA30
560	6871VSMU71B	PCB ASSEMBLY,SUB POWER ML024A RU-15LA50 POWER ASSY SKD

REPLACEMENT PARTS LIST

For Capacitor & Resistors, the characters at 2nd and 3rd digit in the P/No. means as follows;

CC, CX, CK, CN : Ceramic	RD : Carbon Film
CQ : Polyester	RS : Metal Oxide Film
CE : Electrolytic	RN : Metal Film
	RF : Fusible

RUN DATE : 2003.8.20

LOCA. NO	PART NO	DESCRIPTION	LOCA. NO	PART NO	DESCRIPTION			
IC								
IC1	0IMCRTH001A	THC63LVDM83R 56P TRANSMITTER IC	Q406	0TR387500AA	CHIP 2SC3875S(ALY) KEC			
IC100	0IZZVC0101A	M37272E8A(OTP) DIP 52P DIP	Q502	0TR150400BA	CHIP 2SA1504S(ASY) KEC			
IC101	0IAL241610B	AT24C16A10PI2.7 8PIN DIP ST EEPROM NON	Q51	0TRKE80021A	KTC5103D KEC R/TP DPAK 60V 5A			
IC102	0IFA752700A	KA75270Z 3 TP RESET IC MC007	Q510	0TR150400BA	CHIP 2SA1504S(ASY) KEC			
IC301	0IMCRMI006A	M52758FP MITSUBISHI 36PIN	Q52	0TRKE80021A	KTC5103D KEC R/TP DPAK 60V 5A			
IC351	0IMCRFA010A	KA7809R 2P DPAK, R/TP REGULATOR IC	Q53	0TFVI80034A	SUD45P0315 TO252 30V 13A			
IC352	0ISO204000A	CXA2040AQ 32P IIC BUS VIDEO S/W	Q55	0TR387500AA	CHIP 2SC3875S(ALY) KEC			
IC501	0IMCRTW001B	LG8801H 160P SCALER+VIDEO DECO	Q56	0TR387500AA	CHIP 2SC3875S(ALY) KEC			
IC502	0ICTMM004A	SC786108DWR2 16 R/TP OSD	Q57	0TR387500AA	CHIP 2SC3875S(ALY) KEC			
IC51	0ITK118100B	TK11840L 8P SOT23L DCDC CONVERTER	Q651	0TR150400BA	CHIP 2SA1504S(ASY) KEC			
IC52	0IMCRRH005A	UM6K1N 6P SOT363 R/TP 30V 0.1A	Q701	0TR387500AA	CHIP 2SC3875S(ALY) KEC			
IC53	0IMCRRH005A	UM6K1N 6P SOT363 R/TP 30V 0.1A	Q702	0TR150400BA	CHIP 2SA1504S(ASY) KEC			
IC601	0IMCRMN014A	MSP3440G QA B8 V3 80 SOUND IC	Q703	0TR387500AA	CHIP 2SC3875S(ALY) KEC			
IC602	0ISA428200A	LA4282 12S 2CHX10W AUDIO AMP	Q704	0TFFC10007A	FQPF12N60 TO220 600V 10.5A			
IC603	0IKE704200J	KIA7042AF SOT89 TP 4.2V	Q705	0TR387500AA	CHIP 2SC3875S(ALY) KEC			
IC604	0IMCRFA009A	KA78M08RTM 2P DPAK	Q801	0TR387500AA	CHIP 2SC3875S(ALY) KEC			
IC701	0IMCRFA017A	KA3883C 8 SOP R/TP SMPS CONTROLLER	Q802	0TR150400BA	CHIP 2SA1504S(ASY) KEC			
IC702	0IMCRFA007A	KA431Z 3DIP,TO92 TP SHUNT	DIODE					
IC703	0IMCRFA016A	KA78RH33 2P DPAK R/TP 800MA	D100	0DD181009AB	KDS181 TP KEC 85V 300MA			
IC704	0IKE780500P	KIA78L05BP(AT) 3P 5V,150MA	D51	0DD181009AB	KDS181 TP KEC 85V 300MA			
IC707	0IMCRKE006B	KIA278R33PI TO220IS 4P ST 3.3V	D52	0DD181009AB	KDS181 TP KEC 85V 300MA			
IC708	0IKE780500Q	KIA7805API 3P TO220 ST REGULATOR 5V	D53	0DD181009AB	KDS181 TP KEC 85V 300MA			
IC709	0IKE780500Q	KIA7805API 3P TO220 ST REGULATOR 5V	D54	0DD181009AB	KDS181 TP KEC 85V 300MA			
IC710	0IMCRKE006B	KIA278R33PI TO220IS 4P ST 3.3V	D55	0DRDI00028B	B350A DIODES R/TP SMA 35V 3A			
IC801	0IMCRAD002A	AD9883A 80P DIGITAL BOARD	D56	0DRDI00028B	B350A DIODES R/TP SMA 35V 3A			
IC901	0IAL242110A	AT24C2110SI2.5 8P,SOP TP 1K EEPROM	D57	0DD181009AB	KDS181 TP KEC 85V 300MA			
PC1	0ILIL817000G	LTV817MVB 4P,DIP BK PHOTO COUPLER	D601	0DD181009AB	KDS181 TP KEC 85V 300MA			
PC2	0ILIL817000G	LTV817MVB 4P,DIP BK PHOTO COUPLER	D602	0DD181009AB	KDS181 TP KEC 85V 300MA			
Q101	0IFA270000A	2N7000TA TO92, 3P 60V/0.2A,MC007A	D701	0DB260000AA	G2SBA60 BK G.I 600V 1.5A 60A 5UA			
Q102	0IFA270000A	2N7000TA TO92, 3P 60V/0.2A,MC007A	D702	0DD100009AM	EU1ZV(1) TP SANKEN			
Q54	0IMCRRH004A	UMY1N 5P SOT353 R/TP DUAL SWITCHING	D703	0DD140009AA	EK14 V(1) 40V 1.5A 40A 0.2US 5MA			
TRANSISTOR								
IC2	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A S08	D704	0DD100009AM	EU1ZV(1) TP SANKEN			
IC705	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A S08	D706	0DR060009AA	TVR06J DO41 600V 0.6A			
IC706	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A S08	D707	0DRSD00091A	SF20JC10 FTO220(4115) 100V			
Q1	0TR387500AA	CHIP 2SC3875S(ALY) KEC	D709	0DRSD00091A	SF20JC10 FTO220(4115) 100V			
Q100	0TR387500AA	CHIP 2SC3875S(ALY) KEC	LED1	0DL200000CA	LED,SAM5670(DL2LRG) BK YGREEN			
Q1101	0TR387500AA	CHIP 2SC3875S(ALY) KEC	ZD202	0DZRM00178A	ZENERS,UDZS TE17 5.1B			
Q1102	0TR387500AA	CHIP 2SC3875S(ALY) KEC	ZD203	0DZRM00178A	ZENERS,UDZS TE17 5.1B			
Q1103	0TR387500AA	CHIP 2SC3875S(ALY) KEC	ZD400	0DZ330009BA	ZENERS,HZT33			
Q200	0TR387500AA	CHIP 2SC3875S(ALY) KEC	ZD701	0DZ180009AG	ZENERS,MTZJ18B			
Q201	0TR387500AA	CHIP 2SC3875S(ALY) KEC	ZD702	0DZ150009AD	ZENERS,MTZJ15B			
Q202	0TR387500AA	CHIP 2SC3875S(ALY) KEC	ZD703	0DZ820009AH	ZENERS,MTZJ8.2B			
CAPACITOR								
C10	0CE227DF618	220UF STD 16V M	C101	0CE107BF618	100UF KME 16V M			
C103	0TR150400BA	CHIP 2SA1504S(ASY) KEC	C113	0CE107BF618	100UF KME 16V M			

REPLACEMENT PARTS LIST

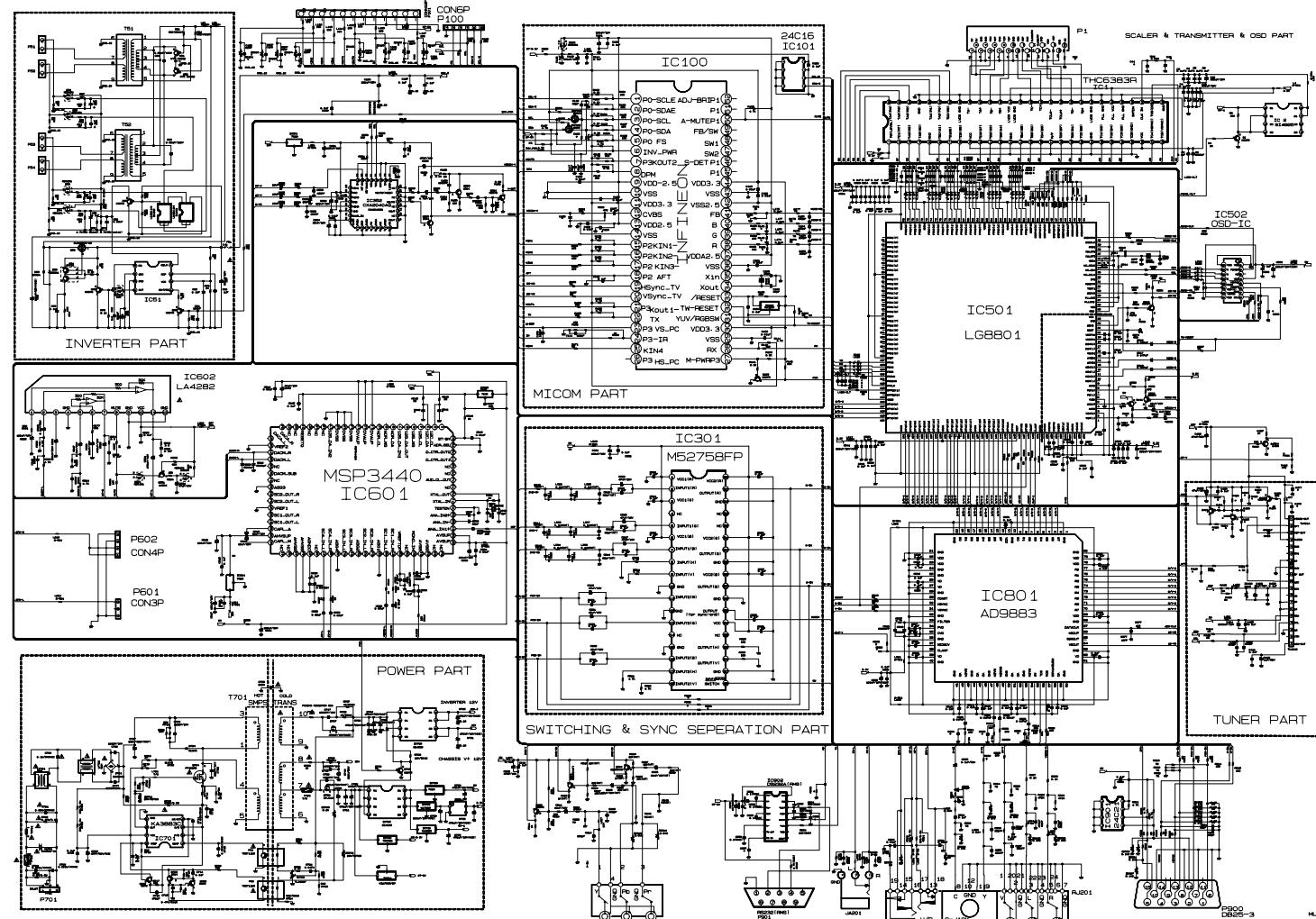
LOCA. NO	PART NO	DESCRIPTION	LOCA. NO	PART NO	DESCRIPTION
C128	0CE227BH618	220UF KME 25V M	C649	0CQ1031N509	0.01U 100V K
C13	0CE227DF618	220UF STD 16V M	C651	0CE107BH618	100UF KME 25V M
C209	0CE476DF618	47UF STD 16V M	C652	0CE107BF618	100UF KME 16V M
C211	0CE106DF618	10UF STD 16V M	C654	0CE476BF618	47UF KME TYPE 16V 20%
C215	0CE106DF618	10UF STD 16V M	C67	0CE337ZF638	330UF SEP 16V 20%
C216	0CE106DF618	10UF STD 16V M	C69	0CE107BH618	100UF KME 25V M
C289	0CE104DK618	0.1000UF STD 50V M	C698	0CK224DF56A	220000PF 2012 16V 10%
C302	0CE476DF618	47UF STD 16V M	C699	0CK224DF56A	220000PF 2012 16V 10%
C315	0CE476DF618	47UF STD 16V M	C700	181-091D	DEHR33A102KN2A 1000PF 1KV 10%,10%
C317	0CE476DF618	47UF STD 16V M	C701	0CF474285B0	0.47UF S 275V 10%
C331	0CE107DF618	100UF STD 16V M	C702	0CF334285B0	0.33UF S 275V 10%
C351	0CE227DF618	220UF STD 16V M	C703	181-120N	1000PF 4KV M E
C353	0CE475DK618	4.7UF STD 50V 20%	C704	181-120N	1000PF 4KV M E
C354	0CE476DF618	47UF STD 16V M	C706	0CE476BK618	47UF KME 50V M
C356	0CE106DF618	10UF STD 16V M	C707	0CE1272U610	120UF KMF 400V 20%
C357	0CE106DF618	10UF STD 16V M	C708	181-091D	DEHR33A102KN2A 1000PF 1KV 10%,10%
C362	0CE107DF618	100UF STD 16V M	C709	181-091U	R 220PF 2KV 10%,10%
C364	0CE336DF618	33UF STD 16V M	C717	181-091D	DEHR33A102KN2A 1000PF 1KV 10%,10%
C380	0CE105DK618	1UF STD 50V M	C718	181-091D	DEHR33A102KN2A 1000PF 1KV 10%,10%
C381	0CE106DF618	10UF STD 16V M	C719	0CE227DK618	220UF STD 50V M
C403	0CE476DH618	47UF STD 25V 20%	C720	181-091D	DEHR33A102KN2A 1000PF 1KV 10%,10%
C404	0CE108DD618	1000UF STD 10V M	C721	0CE4772J618	470UF KMF 35V 20%
C408	0CE106DK618	10UF STD 50V M	C722	0CE477BF618	470UF KME 16V M
C412	0CE105DK618	1UF STD 50V M	C723	0CE477BF618	470UF KME 16V M
C499	0CE476DF618	47UF STD 16V M	C725	0CE4772J618	470UF KMF 35V 20%
C501	0CE107DF618	100UF STD 16V M	C726	0CE477BF618	470UF KME 16V M
C51	0CF2241N5AA	0.22UF D 100V 10%	C730	0CE4772J618	470UF KMF 35V 20%
C523	0CE104DK618	0.1000UF STD 50V M	C731	0CE477BF618	470UF KME 16V M
C526	0CE107DF618	100UF STD 16V M	C732	0CE4772J618	470UF KMF 35V 20%
C541	0CE107DF618	100UF STD 16V M	C733	181-120K	2200PF 4KV M E
C55	0CF2241N5AA	0.22UF D 100V 10%	C734	0CE4772J618	470UF KMF 35V 20%
C581	0CE107DF618	100UF STD 16V M	C735	0CE477BF618	470UF KME 16V M
C60	0CK105DF64A	1UF 2012 16V 20%	C736	0CE4772J618	470UF KMF 35V 20%
C601	0CE477BF618	470UF KME 16V M	C777	181-091D	DEHR33A102KN2A 1000PF 1KV 10%,10%
C602	0CE477BF618	470UF KME 16V M	C799	0CE107BF618	100UF KME 16V M
C605	0CE107BF618	100UF KME 16V M	C810	0CK823DK56A	82000PF 2012 50V 10%
C613	0CE106DF618	10UF STD 16V M	C832	0CE107DF618	100UF STD 16V M
C614	0CE106DF618	10UF STD 16V M			JACK
C616	0CE107DF618	100UF STD 16V M	JA201	6612VCH003B	JACK,PHONE PEJ012C H=6.5 STEREO 1P
C617	0CE107BF618	100UF KME 16V M	RJ201	6613V00008F	JACK ASSY,PMJ014F E/P(ST)+SVHS+3P
C62	0CK105DF64A	1UF 2012 16V 20%	RJ202	6612VJH008D	JACK,RCA PJ6063D DVD IN 3P
C620	0CE335DK618	3.3UF STD 50V 20%			COIL & TRANSFORMER
C621	0CE107BF618	100UF KME 16V M	L401	0LA0272K139	INDUCTOR,27UH K
C626	0CK224DF56A	220000PF 2012 16V 10%	L51	6140VR0004A	COIL,TOKO B953AS330M=P3, 33UH
C627	0CK224DF56A	220000PF 2012 16V 10%	L52	6140VR0004A	COIL,TOKO B953AS330M=P3, 33UH
C629	0CE107DF618	100UF STD 16V M	T51	6170VH0001A	TRANSFORMER,INVERTER 969HGK003 8.985UH
C633	0CE107DF618	100UF STD 16V M	T52	6170VH0001A	TRANSFORMER,INVERTER 969HGK003 8.985UH
C643	0CE476BF618	47UF KME TYPE 16V 20%			
C646	0CE225DK618	2.2UF STD 50V 20%			
C647	0CE225BK618	2.2UF KME TYPE 50V 20%			
C648	0CQ1031N509	0.01U 100V K			

REPLACEMENT PARTS LIST

LOCA. NO	PART NO	DESCRIPTION	LOCA. NO	PART NO	DESCRIPTION
T701	6170VMCA47A	TRANSFORMER,SMPS[COIL] EER3016 510UH	L213	6210TCE001G	FILTER,EMC HH1M3216501
RESISTOR					
FR704	0RP0020J809	0.02 OHM 1 W 20%	L214	6210TCE001G	FILTER,EMC HH1M3216501
L502	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L298	6210TCE001A	FILTER,EMC HB1S2012080JT
L503	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L299	6210TCE001A	FILTER,EMC HB1S2012080JT
L504	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L313	6210TCE001G	FILTER,EMC HH1M3216501
L505	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L351	6210TCE001G	FILTER,EMC HH1M3216501
L506	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L400	6210TCE001G	FILTER,EMC HH1M3216501
L507	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L402	6210TCE001G	FILTER,EMC HH1M3216501
L518	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L501	6210TCE001G	FILTER,EMC HH1M3216501
R200	0RD1000H609	100 OHM 1/2 W 5.00%	L515	6210TCE001G	FILTER,EMC HH1M3216501
R201	0RD1000H609	100 OHM 1/2 W 5.00%	L516	6210VC0004A	FILTER,EMC BK3216 4S600
R51	0RS6800J607	680 OHM 1 W 5.00%	L517	6210TCE001G	FILTER,EMC HH1M3216501
R54	0RS6800J607	680 OHM 1 W 5.00%	L580	6210TCE001A	FILTER,EMC HB1S2012080JT
R69	0RN1302F409	13K OHM 1/6 W 1.00%	L600	6210TCE001G	FILTER,EMC HH1M3216501
R70	0RN4701F409	4.7K OHM 1/6 W 1.00%	L601	6210TCE001G	FILTER,EMC HH1M3216501
R701	0RS5602K619	56K OHM 2 W 5.00%	L602	6210TCE001G	FILTER,EMC HH1M3216501
R702	0RKZVTA001C	8.2M OHM 1/2 W 5%	L603	6210TCE001G	FILTER,EMC HH1M3216501
R703	0RKZVTA001K	0.47M OHM 1/2 W 5%	L701	125-022K	FILTER,EMC FERRITE 1UH
R704	0RS5602K619	56K OHM 2 W 5.00%	L801	6210TCE001G	FILTER,EMC HH1M3216501
R705	0RS5602K619	56K OHM 2 W 5.00%	L802	6210TCE001G	FILTER,EMC HH1M3216501
R707	0RD3303H609	330K OHM 1/2 W 5.00%	L803	6210TCE001G	FILTER,EMC HH1M3216501
R71	0RN4701F409	4.7K OHM 1/6 W 1.00%	L99	6210TCE001G	FILTER,EMC HH1M3216501
R711	0RS5602K619	56K OHM 2 W 5.00%	LF701	6200JB8010U	FILTER,EMC OR 14*7*7.5H 6.0MH11.0MH
R712	0RD6803H609	680K OHM 1/2 W 5.00%	LF702	6200JB8010U	FILTER,EMC OR 14*7*7.5H 6.0MH11.0MH
R715	180-A01R	2 W RW ROUND G 0.39	R505	6210TCE001A	FILTER,EMC HB1S2012080JT
R727	0RD0472H609	47 OHM 1/2 W 5.00%	Z100	156-A01L	RESONATOR,CRYSTAL HC49U 6.000MHZ
R728	0RD0472H609	47 OHM 1/2 W 5.00%	Z500	156-A02X	RESONATOR,CRYSTAL HC49U 27.000MHZ
MISCELLANEOUS					
SW1101	140-275B	SWITCH,PUSH JDPB21NA 30V 0.3A	F701	0FS3151B51D	FUSE,SLOW BLOW 3150MA 250V
SW1101	140-313A	SWITCH,TACT 2LEAD 100G(TA) 5V	P1101	6631V20014E	CONNECTOR ASSEMBLY,12P 2.0MM
SW1102	140-313A	SWITCH,TACT 2LEAD 100G(TA) 5V	P701	6620VZ0002A	SOCKET,DRAWING IS7007 AC SOCKET
SW1103	140-313A	SWITCH,TACT 2LEAD 100G(TA) 5V	P900	6630G15E215	CONNECTOR,DSUB 15P 2.29MM
SW1104	140-313A	SWITCH,TACT 2LEAD 100G(TA) 5V	PA1101	6726VV0006D	REMOTE CONTROLLER RECEIVER,38.0KHZ
SW1105	140-313A	SWITCH,TACT 2LEAD 100G(TA) 5V	TH701	163-048D	THERMISTOR,KL15L2R5 +/- 15% 125V
SW1106	140-313A	SWITCH,TACT 2LEAD 100G(TA) 5V	TU401	6700VNF019E	TUNER,TAFHH001P LG NTSC FS .
SW1107	140-313A	SWITCH,TACT 2LEAD 100G(TA) 5V	VA701	164-003K	VARISTOR,SVC621D14A 620V 0%
ACCESSORIES					
L1	6210TCE001G	FILTER,EMC HH1M3216501	A1	3828VA0359T	MANUAL,OWNERS RM15LA54 ZENITH
L101	6210TCE001G	FILTER,EMC HH1M3216501	A2	6710V00082M	REMOTE CONTROLLER,ML024A W/O TXT
L102	6210TCE001G	FILTER,EMC HH1M3216501	A3	6410VUH007A	POWER CORD,SP305+IS034 SVT18AWG*3C
L119	6210TCE001A	FILTER,EMC HB1S2012080JT	A4	6851V00004D	CABLE ASSEMBLY,AUDIO TO AUDIO 2000MM
L200	6210TCE001A	FILTER,EMC HB1S2012080JT	A5	6866VA9001A	CONNECTOR,DSUB 29909C,AT,L1830
L201	6210TCE001A	FILTER,EMC HB1S2012080JT			
L202	6210TCE001A	FILTER,EMC HB1S2012080JT			
L204	6210TCE001A	FILTER,EMC HB1S2012080JT			
L205	6210TCE001A	FILTER,EMC HB1S2012080JT			
L206	6210TCE001G	FILTER,EMC HH1M3216501			

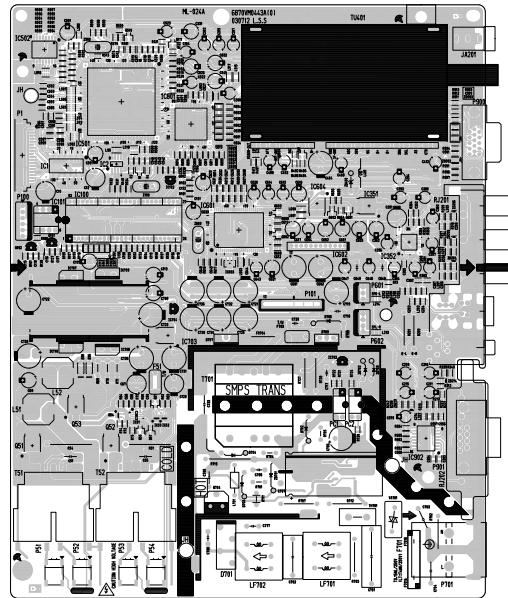
zenith 

CIRCUIT DIAGARM FOR ML024A CHASSIS

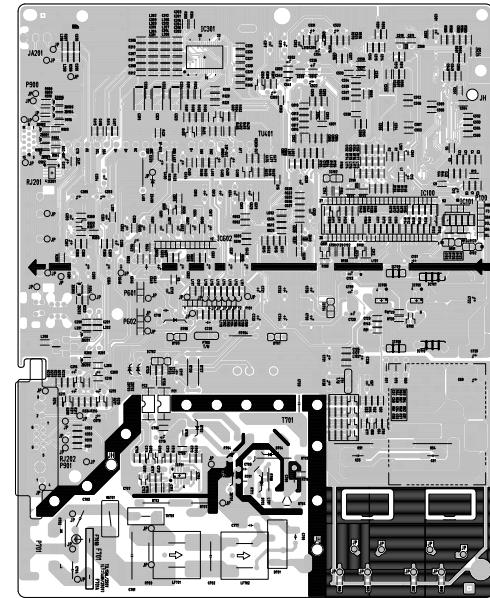


ML024ANT&RM
2003/44/10

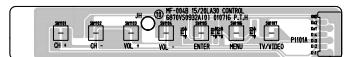
MAIN(TOP)



MAIN(BOTTOM)



CONTROL



POWER

